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PATENT ABSTRACTS OF JAPAN

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(71) Applicant: **NEC CORP**

(72) Inventor: **YASUSE ATSUSHI**

(74) Representative:

(54) MULTILEVEL QUADRATURE AMPLITUDE MODULATOR

(57) Abstract:

PURPOSE: To provide a multilevel quadrature amplitude modulator of high quality by compensating surely the fluctuation of the output level which is caused by the temperature change of a D/A converter.

CONSTITUTION: The D/A converters 1 and 2 receive the digital signals D11, D12, D21 and D22 and

convert them into the base band signals B1 and B2 having the quadruple amplitude. The differential amplifiers 3 and 4 receive the signals B1 and B2 and transmits them as the smoothed base band signals B1p and B1n of positive phases and the signals B2p and B2n of the negative phases respectively. Meanwhile, the output levels are controlled in response to the control voltage Vc1 and Vc2. A multiplier 5 receives the signals B1p-B2n and produces a multilevel quadrature amplitude modulated signal Sm. The average calculating parts 61 and 71 of the control voltage generating circuits 6 and 7 calculate the average levels of the signals B1p-B2n respectively. Then, the voltage generating parts 62 and 72 generates the voltage Vc1 and Vc2 so as to set the difference of the average levels at zero.

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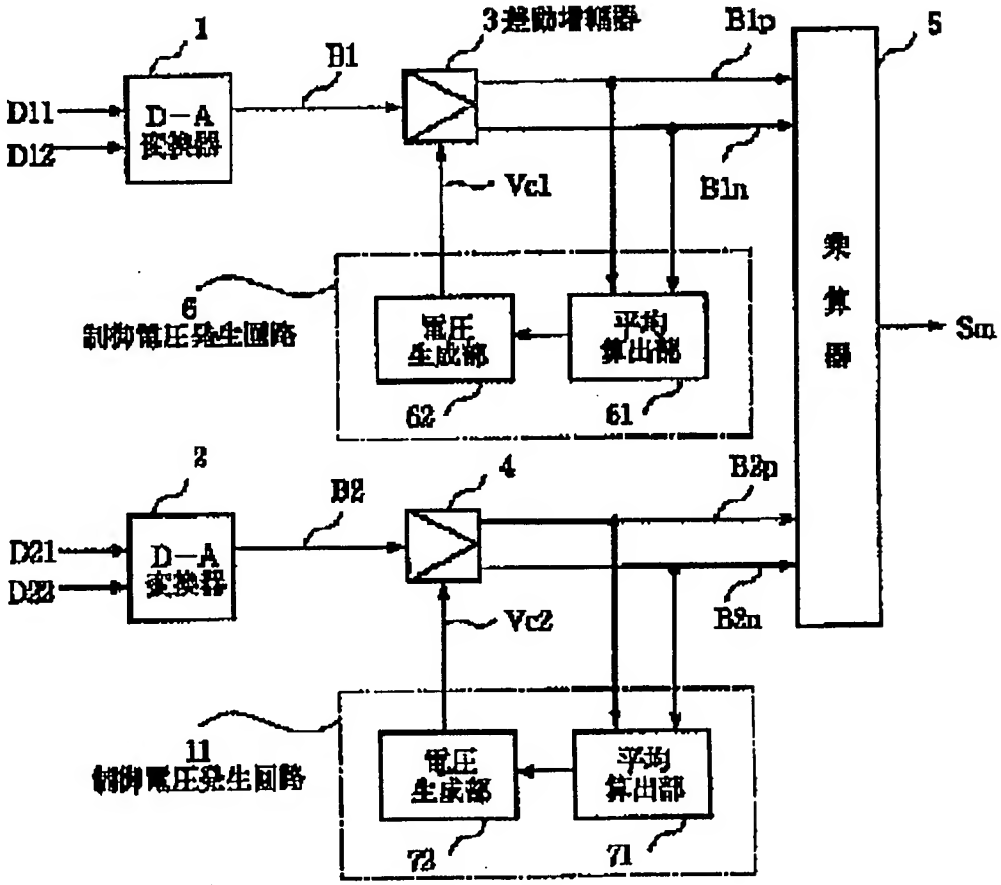
1
D11
D12
D−A
変換器
B1
3差動増幅器
B1p
B1n
5
乗
算
器
Sm
Vc1
6
制御電圧発生回路
電圧
生成部
平均
算出部
62
61
2
D21
D22
D−A
変換器
B2
4
B2p
B2n
Vc2
11
制御電圧発生回路
電圧
生成部
平均
算出部
72
71